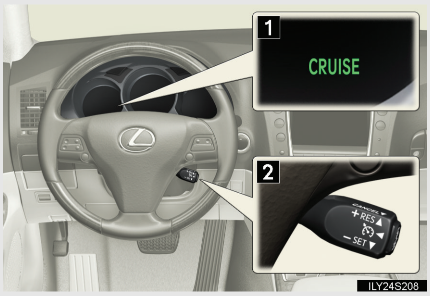
Cruise control*

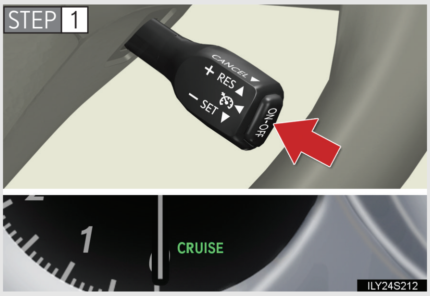
Use the cruise control to maintain a set speed without using the accelerator.



1 Indicator

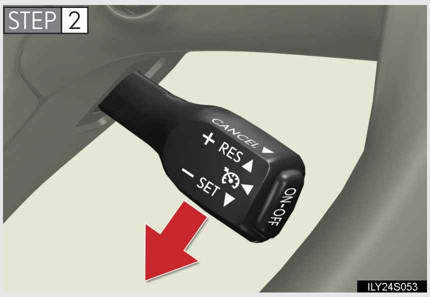
2 Cruise control switch

Set the vehicle speed



Press the "ON-OFF" button to activate the cruise control.

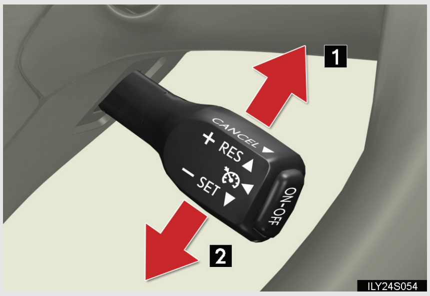
Press the button once more to deactivate the cruise control.



Accelerate or decelerate to the desired speed and press the lever down to set the cruise control speed.

*: If equipped

Adjusting the speed setting



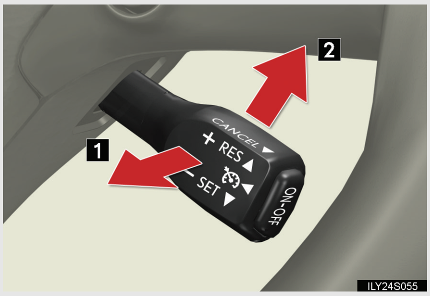
1 Increase speed

2 Decrease speed

Hold the lever until the desired speed setting is obtained.

Fine adjustment of the set speed can be made by lightly pressing the lever up or down and releasing it.

Canceling and resuming regular acceleration



1 Cancel

Pull the lever towards you to cancel cruise control.

The setting is also canceled when the brake pedal is depressed.

2 Resume

To resume cruise control and return to the set speed, push the lever up.

■ Cruise control can be set when

- The shift lever is in the D or "4", "5", "6", "7" or "8" (GS460) or "4", "5", or "6" (GS350) range of S has been selected.
- Vehicle speed is above approximately 25 mph (40 km/h).

■ Accelerating

The vehicle can be accelerated normally. After acceleration, the set speed resumes.

■ Automatic cruise control cancelation

The set speed is automatically canceled in any of the following situations.

- Actual vehicle speed falls more than 10 mph (16 km/h) below the preset vehicle speed
  At this time, the memorized set speed is not retained.
- Actual vehicle speed is below 25 mph (40 km/h)
- Enhanced VSC is activated

■ If the cruise control indicator light flashes

Press the "ON-OFF" button off once, and then reactivate the system.
If the cruise control speed cannot be set or if the cruise control cancels immediately after being activated, there may be a malfunction in the cruise control system. Have the vehicle inspected by your Lexus dealer.

CAUTION

■ To avoid operating the cruise control by mistake

Keep the "ON-OFF" button off when not in use.

■ Situations unsuitable for cruise control

Do not use cruise control in any of the following situations.
Doing so may result in control of the vehicle being lost and could cause an accident resulting in death or serious injury.

- In heavy traffic
- On roads with sharp bends
- On slippery roads, such as those covered with rain, ice or snow
- On steep hills
  Vehicle speed may exceed the set speed when driving down a steep hill.
- On winding roads
- When emergency towing

Dynamic radar cruise control*

Dynamic radar cruise control supplements conventional cruise control with a vehicle-to-vehicle distance control. In the vehicle-to-vehicle distance control mode, the vehicle automatically accelerates or decelerates in order to maintain a set following distance from vehicles ahead.



1 Indicator
2 Display
3 Cruise control switch
4 Distance switch

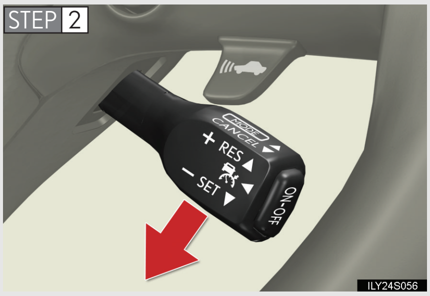
*: If equipped

■ **Set the vehicle speed**



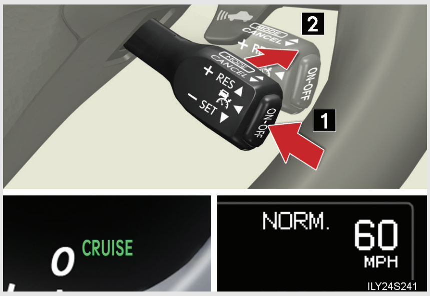
1 Press the "ON-OFF" button to activate the cruise control.

Press the button once more to deactivate.



Accelerate or decelerate to the desired speed and press the lever down to set.

Selecting conventional constant speed control mode



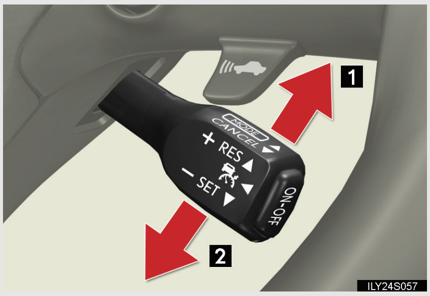
1 Press the "ON-OFF" button to activate the cruise control.

Press the button once more to deactivate the cruise control.

2 Switch to constant speed control mode.
(Push the lever away from you and hold for approximately 1 second.)

Vehicle-to-vehicle distance control mode is always reset when the "ENGINE START STOP" switch is switched to IGNITION ON mode.

Adjusting the speed setting



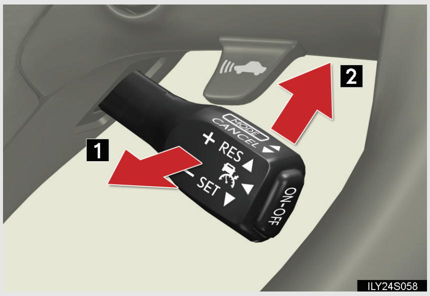
1 Increase speed

2 Decrease speed

Hold the lever until the desired speed setting is displayed.

In the constant speed control mode, fine adjustment of the set speed can be made by lightly pressing the lever up or down and releasing it.

Canceling and resuming the speed setting



1 Cancel

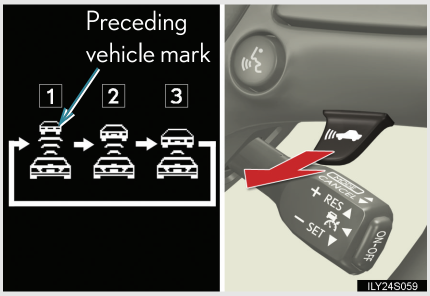
Pull the lever towards you to cancel cruise control.

The setting is also canceled when the brake pedal is depressed.

2 Resume

To resume cruise control and return to the set speed, push the lever up.

Changing the vehicle-to-vehicle distance



Each pull of the switch changes the vehicle-to-vehicle distance

1 Long

2 Medium

3 Short

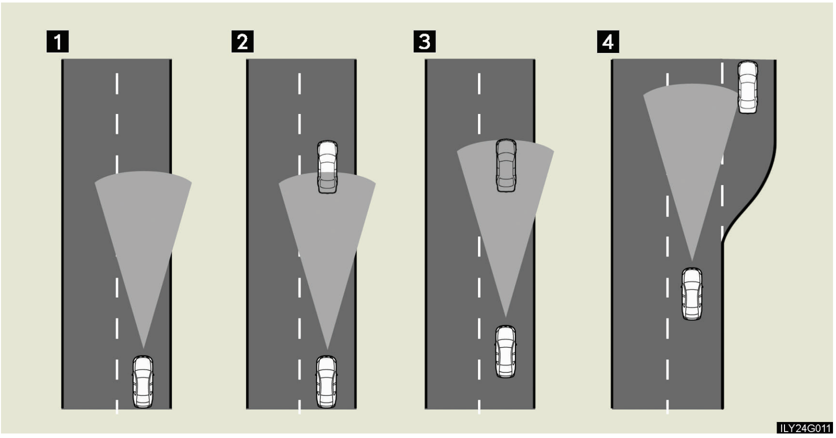
The vehicle-to-vehicle distance is automatically set to the long mode when the “ENGINE START STOP” switch is set to the IGNITION ON mode.

A mark will be displayed to indicate the presence of the vehicle if a vehicle is running ahead of you.

Cruising in vehicle-to-vehicle distance control mode

This mode employs a radar sensor to detect the presence of vehicles within 400 ft. (120 m) ahead and to judge the distance between your vehicle and those vehicles.

Note that vehicle-to-vehicle distance will close when traveling on long downhill slopes.



1 Example of constant speed cruising
When there are no vehicles ahead

The vehicle travels at the speed set by the driver. The desired vehicle-to-vehicle distance can also be set by operating the vehicle-to-vehicle distance switch.

2 Example of deceleration cruising
When the vehicle ahead is driving slower than the set speed

When a vehicle is detected running ahead of you, in the same lane, the system automatically decelerates your vehicle. When a greater reduction in vehicle speed is necessary, the system applies the brakes. A warning tone warns you when the system cannot decelerate sufficiently to prevent your vehicle from closing on the vehicle ahead.

3 Example of follow-up cruising

When following a vehicle driving slower than the set speed

The system continues follow-up cruising while adjusting for changes in the speed of the vehicle ahead in order to maintain the vehicle-to-vehicle distance set by the driver.

4 Example of acceleration

When there are no longer vehicles driving slower than the set speed in the lane ahead

When the vehicle ahead of you executes a lane change, the system slowly accelerates until the set vehicle speed is reached. The system then returns to fixed speed cruising.

Approach warning

When your vehicle is too close to a vehicle ahead, and sufficient automatic deceleration via the cruise control is not possible, the display will flash and a buzzer will sound to alert the driver. An example of this would be if another driver cuts in front of you while you are following a vehicle. Apply the brakes to ensure an appropriate vehicle-to-vehicle distance.

■ Warning lights and messages for dynamic radar cruise control

Warning lights, messages and buzzers are used to indicate a system malfunction or to inform the driver of the need for caution while driving. (→P. 547)

■ Switching modes

The mode cannot be switched to constant speed control mode if vehicle-to-vehicle distance control mode has been used. The mode also cannot be switched from constant speed control to vehicle-to-vehicle control mode. Turn the system off by pressing the “ON-OFF” button, and turn it on again.

■ Dynamic radar cruise can be set when

- The shift lever is in D. (Recommended)
  Dynamic radar cruise control can also be set when the shift lever is in the S position and range “4”, “5”, “6”, “7” or “8” (GS460) or “4”, “5” or “6” (GS350) has been selected.
- Vehicle speed is above approximately 30 mph (50 km/h).

■ Accelerating

The vehicle can be accelerated normally. After acceleration, the set speed resumes.

■ Automatically canceling vehicle-to-vehicle distance control

Vehicle-to-vehicle distance control driving is automatically canceled in the following situations.

- Actual vehicle speed falls below 25 mph (40 km/h)
- Enhanced VSC is activated
- The windshield wipers are operating at high speed
- The mode select switch is set to snow mode
- The sensor cannot operate correctly because it is covered in some way
  Vehicle-to-vehicle distance control driving must be reset by turning the “ON-OFF” button on again.

If vehicle-to-vehicle distance control driving is automatically canceled for any other reason, there may be a malfunction in the system. Contact your Lexus dealer.

■ Automatically canceling constant speed control

The set speed is automatically canceled in the following situations.

- Actual vehicle speed is more than 10 mph (16 km/h) below the preset vehicle speed
- Actual vehicle speed falls below 25 mph (40 km/h)
- Enhanced VSC is activated

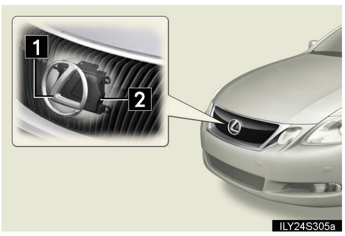
■ **Vehicle-to-vehicle distance settings**

Select a distance from the table below. Note that the distances shown correspond to a vehicle speed of 50 mph (80 km/h). Vehicle-to-vehicle distance increases/ decreases in accordance with vehicle speed.

Distance options	Vehicle-to-vehicle distance
Long	Approximately 210 ft. (65 m)
Medium	Approximately 150 ft. (45 m)
Short	Approximately 100 ft. (30 m)

■ **Radar sensor and grille cover**

Always keep the sensor and grille cover clean to ensure that the vehicle-to-vehicle distance control operates properly. (Some obstructions, such as snow, ice or plastic objects, cannot be detected by the obstruction sensor.)
Dynamic radar cruise control is canceled if an obstruction is detected.



1 Grille cover

2 Radar sensor

■ **Approach warning**

In the following instances, there is a possibility that the warnings will not occur:

- When the speed of the vehicle ahead matches or exceeds your vehicle's speed
- When the vehicle ahead is traveling at an extremely slow speed
- Immediately after the cruise control speed has been set
- At the instant the accelerator is applied

Certification

▶ For vehicles sold in the U.S.A.

FCC ID: HYQDNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

▶ For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes: (1) il ne doit pas produire de brouillage, et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

CAUTION

Before using dynamic radar cruise control

Do not overly rely on vehicle-to-vehicle distance control.
Be aware of the set vehicle speed. If automatic deceleration/acceleration is not appropriate, adjust the vehicle speed, as well as the distance between your vehicle and vehicles ahead by applying the brakes, etc.

To avoid operating the dynamic radar cruise control by mistake

Keep the "ON-OFF" button off when not in use.

Situations unsuitable for dynamic radar cruise control

Do not use dynamic radar cruise control in any of the following situations.
Doing so may result in inappropriate control of speed and could cause serious or fatal accident.

- In heavy traffic
- On roads with sharp bends
- On winding roads
- On slippery roads, such as those covered with rain, ice or snow
- On steep downhills, where there are sudden changes between sharp up and down gradients
  Vehicle speed may exceed the set speed when driving down a steep hill.
- At entrances to expressways
- When weather conditions are bad enough that they may prevent the sensors from functioning correctly (fog, snow, sandstorm, etc.)
- When the approach warning buzzer can be heard often
- When emergency towing

CAUTION

■ When the radar sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary when any of the following types of vehicles are in front of you.
As the sensor may not be able to correctly detect these types of vehicles, the proximity alarm (→P. 552) will not be activated, and a serious or fatal accident may result.

- Vehicles that cut in suddenly
- Vehicles traveling at low speeds
- Vehicles that are not moving
- Vehicles with small rear ends (trailers with no load on board etc.)
- Motorcycles traveling in the same lane

■ Conditions under which the vehicle-to-vehicle distance control may not function correctly

Apply the brakes as necessary in the following conditions as the radar sensor may not be able to correctly detect vehicles ahead, and a serious or fatal accident may result.

- When water or snow thrown up by the surrounding vehicles hinders the functioning of the sensor
- When your vehicle is pointing upwards (caused by a heavy load in the trunk, etc.)
- When the road curves or when the lanes are narrow
- When steering wheel operation or your position in the lane is unstable
- When the vehicle ahead of you decelerates suddenly

⚠ CAUTION

■ To ensure the radar sensor functions correctly

Do not do the following to the sensor or grille cover as doing so may cause the sensor not to function correctly and could result in a serious or fatal accident.

- Stick or attach anything to them
- Leave them dirty
- Disassemble, subject them to strong shocks
- Modify or paint them
- Replace them with non-genuine parts

■ Handling the radar sensor

Observe the following to ensure the cruise control system can function effectively.

- Keep the sensor and front grille clean at all times.
  Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
- Do not subject the sensor or surrounding area to a strong impact.
  If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area is subject to a strong impact, always have the area inspected and adjusted by a Lexus dealer.
- Do not disassemble the sensor.
- Do not attach accessories or stickers to the sensor, grille or surrounding area.
- Do not modify or paint the sensor and grille.

Intuitive parking assist*

Intuitive parking assist uses sensors in the front and rear of the vehicle to detect the distance between the vehicle and any obstacles, and informs the driver of this distance using the multi-information display, the touch screen, and warning beeps.
The system may be used at speeds less than about 6 mph (10 km/h).

Sensor types



1 Dual sensors

There are 4 sensors installed in the front bumper, two in the center section to detect obstacles directly ahead, and one in each corner of the bumper, to detect obstacles in those areas.
The dual sensors detect obstacles ahead of the vehicle, and judge whether avoidance maneuvers are necessary (whether the obstacle will come within 0.8 ft. [25 cm] of the vehicle), according to the distance between the obstacle and the vehicle, and the steering wheel position. The screen display and beeps will change accordingly.

2 Rear corner sensors

These sensors detect obstacles around the rear corners of the vehicle.

3 Back sensors

These sensors detect obstacles behind the vehicle.

*: If equipped

Intuitive parking assist switch



1 Press the switch to turn the system on/off.

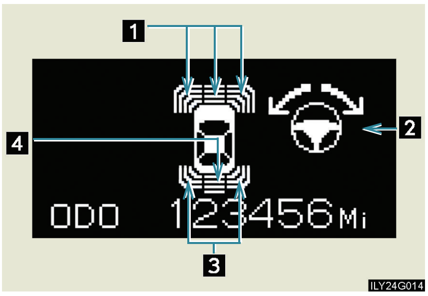
If the intuitive parking assist is turned on, the indicator light will come on, and the system will operate under the following conditions:

- The dual sensors will operate if the shift lever is in a position other than “R” or “P”.
- All corner sensors and the back sensors will operate if the shift lever is in “R”.

Multi-information display and touch screen

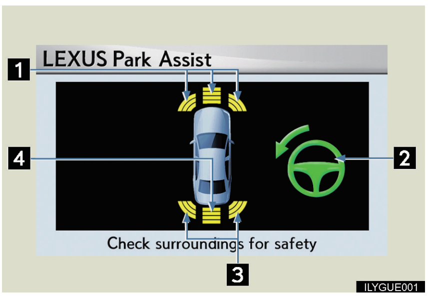
If the sensors detect an obstacle, it is displayed on the multi-information display in the instrument cluster.
You can change the conditions under which information is displayed on the touch screen. (→P. 245)

▶ Multi-information display



1. Dual sensor detection
2. Steering guide symbol
3. Rear corner sensor detection
4. Back sensor detection

▶ Touch screen



1. Dual sensor detection
2. Steering guide symbol
3. Rear corner sensor detection
4. Back sensor detection

If the intuitive parking assist is operated while the rear view monitor is showing, the intuitive parking assist will be shown in the upper right corner of the screen. (→P. 186)

Sensor detection display, obstacle distance and beeps

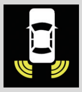
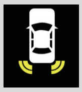
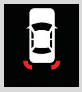
When the intuitive parking assist is activated, the approximate distance to the obstacle is displayed. Also, if an obstacle with which a collision is possible is detected, a warning beep will sound.

Dual sensor

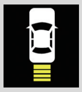
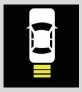
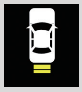
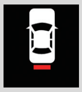
Approximate distance to obstacle	Multi-information display	Touch screen	
		With beeps (danger of collision)	No beeps (no danger of collision)
3.0 ft. (100 cm) to 1.5 ft. (50 cm)	 (continuous)	 (continuous)	 (continuous)
1.5 ft. (50 cm) to 1.1 ft. (37.5 cm)	 (continuous)	 (continuous)	 (continuous)
1.1 ft. (37.5 cm) to 0.8 ft. (25 cm)	 (continuous)	 (continuous)	 (continuous)
Less than 0.8 ft. (25 cm)	 (blinking)	 (continuous)	—

• If the shift lever is in “R”, only the corner sensors will detect obstacles.

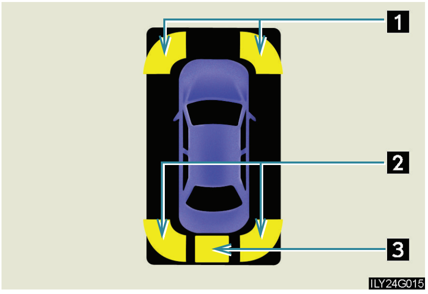
Rear corner sensor

Approximate distance to obstacle	Multi-information display	Touch screen
1.5 ft. (50 cm) to 1.1 ft. (37.5 cm)	 (continuous)	 (continuous)
1.1 ft. (37.5 cm) to 0.8 ft. (25 cm)	 (continuous)	 (continuous)
Less than 0.8 ft. (25 cm)	 (blinking)	 (continuous)

Back sensor

Approximate distance to obstacle	Multi-information display	Touch screen
5.0 ft. (150 cm) to 2.0 ft. (60 cm)	 (continuous)	 (continuous)
2.0 ft. (60 cm) to 1.4 ft. (45 cm)	 (continuous)	 (continuous)
1.4 ft. (45 cm) to 1.1 ft. (35 cm)	 (continuous)	 (continuous)
Less than 1.1 ft. (35 cm)	 (blinking)	 (continuous)

Touch screen (insert display)



1 Dual sensor (corner) detection

2 Rear corner sensor detection

3 Back sensor detection

The tire display and the steering guide symbol will not be displayed.

Dual sensor

Approximate distance to obstacle	With beeps (danger of collision)	No beeps (no danger of collision)
3.0 ft. (100 cm) to 1.5 ft. (50 cm)	 (blinking slowly)	 (continuous)
1.5 ft. (50 cm) to 1.1 ft. (37.5 cm)	 (blinking)	 (continuous)
1.1 ft. (37.5 cm) to 0.8 ft. (25 cm)	 (blinking rapidly)	 (continuous)
Less than 0.8 ft. (25 cm)	 (continuous)	—

Rear corner sensor

Approximate distance to obstacle	Touch screen
1.5 ft. (50 cm) to 1.1 ft. (37.5 cm)	 (blinking)
1.1 ft. (37.5 cm) to 0.8 ft. (25 cm)	 (blinking rapidly)
Less than 0.8 ft. (25 cm)	 (continuous)

Back sensor

Approximate distance to obstacle	Touch screen
5.0 ft. (150 cm) to 2.0 ft. (60 cm)	 (blinking slowly)
2.0 ft. (60 cm) to 1.4 ft. (45 cm)	 (blinking)
1.4 ft. (45 cm) to 1.1 ft. (35 cm)	 (blinking rapidly)
Less than 1.1 ft. (35 cm)	 (continuous)

Steering guide symbol

Displays the steering maneuvers required to avoid an obstacle. Move the steering wheel in the direction shown by the arrow.



The steering guide symbol only shows the maneuvers necessary to avoid an obstacle.

When using the system, always check your surroundings for safety.

Beeps and obstacle distance

A beep sounds when an obstacle with which there is a danger of collision is detected. As the vehicle moves closer to the obstacle, the interval of the beep becomes shorter.

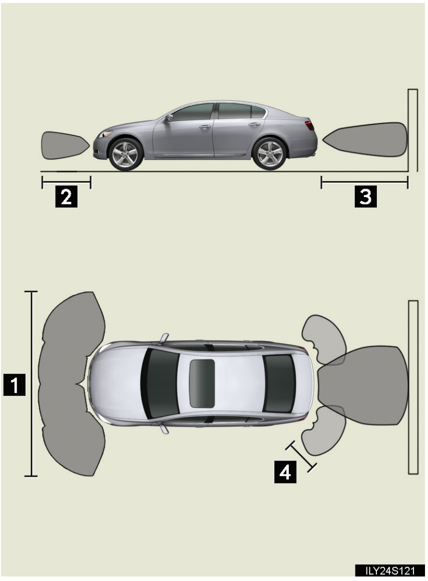
● When the following obstacle distances are reached, the beep changes from intermittent to continuous:

- If the distance to the obstacle detected by the dual sensors or rear corner sensors is less than 0.8 ft. (25 cm).
- If the distance to the obstacle detected by the back sensors is less than 1.1 ft. (35 cm).

● If obstacles are detected by the dual sensors in 2 places at once, or if both rear corner sensors detect obstacles at the same time, the system will sound a warning beep for the closer of the 2 obstacles.

- If multiple obstacles are detected in front and behind the vehicle at the same time, the warning beep will change in the following manner:
  - If an obstacle has been detected within 0.8 ft. (25 cm) of the front or rear of the vehicle (a continuous beep is sounding), and a new obstacle is detected near a different area of the vehicle, the warning beep will sound 6 beeps then one continuous beep.
  - If an obstacle has been detected within 0.8 ft. (25 cm) of the front or rear of the vehicle (a continuous beep is sounding), and a new obstacle is detected within 0.8 ft. (25 cm) of a different area of the vehicle, the warning beeps will sound 2 beeps then one continuous beep.
- You can change the volume of the warning beeps. (→P. 245)

Obstacle detection range



1 About 10.0 ft. (300 cm)
2 About 3.0 ft. (100 cm)
3 About 5.0 ft. (150 cm)
4 About 1.5 ft. (50 cm)

The detection area of the sensors is shown to the left.
If obstacles move too close to the sensors, they will not be detected.
If the malfunction screen is displayed, the dual sensor detection range will be shortened from 3.0 ft. (100 cm) to 1.5 ft. (50 cm).

■ The intuitive parking assist can be operated when

The "ENGINE START STOP" switch is in the IGNITION ON mode.

■ When the system malfunctions

- If a malfunction occurs and no obstacles have been detected, a warning is displayed, and a malfunction beep sounds for 7 seconds.
  If an obstacle has been detected, or another malfunction occurs in a different sensor, the malfunction beeps will not sound.
- In the following circumstances the displayed warning will disappear:
  - If you switch the screen to a different mode.
  - If you turn off the intuitive parking assist main switch.
  - If the vehicle speed exceeds 6 mph (10 km/h). Once the vehicle speed drops below 6 mph (10 km/h), the warning will be displayed again.
- If the malfunction screen is displayed, the detection range of the dual sensors is shortened. In this case, the necessity for obstacle evasion (whether the obstacle will come within 0.8 ft. [25 cm] of the vehicle or not) will not be calculated.

■ When using the intuitive parking assist

- The sensors' detection areas and reaction times are limited. When moving forward or reversing, check the areas surrounding the vehicle (especially the sides of the vehicle) for safety, and drive slowly, using the brake to control the vehicle's speed.
  - The sensors' detection areas are limited to the areas around the vehicle's front and rear bumpers.
  - Depending on the shape of the obstacle and other factors, the detection distance may shorten, or detection may be impossible.
  - There will be a short delay between obstacle detection and display. Even at slow speeds, there is a possibility that the obstacle will come within 0.8 ft. (25 cm) of the vehicle before the display is shown and the warning beep sounds.
  - Braking distance may differ according to the road conditions (rain, gravel etc.).
  - It might be difficult to hear beeps due to the volume of audio system or air flow noise of air conditioning system.
  - For long obstacles such as walls, the obstacle warning may change as the obstacle gets closer.

- In the following situations, the intuitive parking assist may not function correctly, possibly leading to an accident.
  - There is ice, snow or mud on the sensors. (Wiping the sensors will resolve this problem.)
  - The sensor area is frozen. (Thawing the area will resolve this problem.) In especially cold weather, if a sensor is frozen the screen may show an abnormal display, or obstacles may not be detected.
  - The vehicle angle is especially wide.
  - In harsh sunlight or intense cold weather.
  - When driving on bumpy, sloped or gravel roads, or over grass.
  - If there is something producing ultrasonic waves nearby, such as another vehicle's horn, motorcycle engine noise, air braking sound from heavy-duty vehicles, or another vehicle using the intuitive parking assist.
  - In heavy rain, or if water is splashed on the sensors.
  - If a commercial fender pole or radio antenna is installed.
  - If towing eyelet is installed on your vehicle.
  - If moving towards a high curb or a curb corner.
  - Objects such as signs may cause the detection distance to shorten.
  - The area directly under the bumpers is not detected. Objects lower than the sensors or thin stakes etc. may be detected initially, but as they draw closer, they may cease to be detected.
  - If obstacles draw too close to the sensor.

Obstacles that may not be detected correctly

The following obstacles may not be detected.

- Thin objects such as wire, fencing or rope.
- Objects that absorb sound waves, such as cotton or snow.
- Objects with sharp corners.
- Objects where the upper section projects out over the lower section.
- Low objects.

If the display flashes and a message is displayed

→P. 553

Warning beep volume and touch screen settings

You can change the warning beep volume etc. (→P. 245)

Certification

▶ For vehicles sold in the U.S.A.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions;

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

▶ For vehicles sold in Canada

This ISM device complies with Canadian ICES-001.

Cet appareil ISM est conforme a la norme NMB-001 du Canada.

CAUTION

While driving

To reduce the chance of injury in the event of an accident or sudden stop, keep the switch box closed.

When using the intuitive parking assist

Observe the following precautions.

- The back sensors and rear corner sensors do not judge whether there is danger of a collision, nor whether the obstacle can be avoided using the steering wheel. When reversing, always check your surroundings and behind the vehicle for safety.
- The steering guide symbol (arrow) is an approximate guide regarding obstacles. It is not driving instructions. When moving forward or reversing, always check your surroundings for safety and drive carefully.
- Do not install accessories within the sensors' detection areas, as this may cause the intuitive parking assist to function incorrectly, possibly leading to an accident.

NOTICE

When using the intuitive parking assist

In the following situations, the system may not function correctly due to a sensor malfunction etc. Have the vehicle checked by your Lexus dealer.

- A beep does not sound when you turn the main switch on.
- The intuitive parking assist operation display flashes, and a beep sound when no obstacle has been detected.
- If the area around a sensor collides with something, or is subjected to strong impact.
- If the bumper collides with something.
- If the display shows continuously without a beep.

When changing tires

If you install tires of a size other than that recommended by the manufacturer, the system will be unable to correctly detect steering wheel movement. Always use tire sizes recommended by the manufacturer.

When washing the vehicle

When washing the vehicle using high pressure cleaning equipment, do not spray water directly on the sensors. Subjecting the sensors to high pressure impact may cause a malfunction.

Rear view monitor system*

The rear view monitor system assists the driver by displaying an image of the view behind the vehicle while reversing. The image is displayed in reverse on the screen. This allows the image to appear in the same manner as that of the rear view mirror.

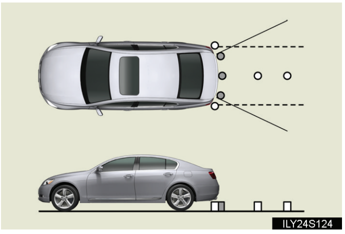


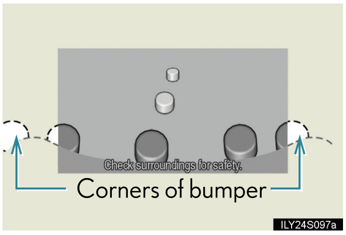
Rear view image is displayed when the shift lever is in “R”.

If you move the lever out of “R”, the screen returns to the previous one.

*: If equipped

Displayed area





The area covered by the camera is limited. Objects which are close to either corner of the bumper or under the bumper cannot be seen on the screen.

The area displayed on the screen may vary according to vehicle orientation or road conditions.

Rear view monitor system camera



In the following cases, it may be difficult to see the images on the screen, even when the system is functioning correctly.

- In the dark (e.g. at night).
- If the temperature near the lens is extremely high or low.
- If water droplets get on the camera, or when humidity is high (e.g. when it rains).
- If foreign matter (e.g. snow or mud) get on the camera lens.
- If the sun or headlights are shining directly into the camera lens.

■ Smear effect



If a bright light (for example, sunlight reflected off the vehicle body) is picked up by the camera, a smear effect* peculiar to the camera may occur.

*: Smear effect – A phenomenon that occurs when a bright light (for example, sunlight reflected off the vehicle body) is picked up by the camera; when transmitted by the camera, the light source appears to have a vertical streak above and below it.

■ Flicker effect

When the camera is used under fluorescent lights, sodium lights, or mercury lights etc., the lights and the illuminated areas may appear to flicker.

CAUTION

■ When using the rear view monitor system

Observe the following precautions to avoid an accident that could result in death or serious injuries.

- Never depend solely on the monitor system when reversing.
- Always check visually and with the mirrors to confirm your intended path is clear.
- Depicted distances between objects and flat surfaces differ from actual distances.
- Do not use the system if the trunk is open.

CAUTION

Conditions which may affect the rear view monitor system

- If the back of the vehicle is hit, the camera's position and mounting angle may change. Contact your Lexus dealer.
- Rapid temperature changes, such as when hot water is poured on the vehicle in cold weather, may cause the system to function abnormally.
- If the camera lens is dirty, it cannot transmit a clear image. Rinse with water and wipe with a soft cloth. If extremely dirty, wash with a mild cleanser and rinse.
- The displayed image may be darker and moving images may be slightly distorted when the system is cold.
- When washing the vehicle, do not apply intensive bursts of water to the camera or camera area. Doing so may result in the camera malfunctioning.

AVS (Adaptive Variable Suspension System)*

AVS controls the suspension according to the road and driving conditions. Selecting an optimum driving mode allows good vehicle posture and steering wheel operation in conjunction with VGRS (GS460), EPS and active stabilizer suspension system (if equipped).



1 Sports mode

For winding mountain road driving or high speed driving.

2 Normal mode

For normal driving.

*: If equipped

Driving assist systems

To help enhance driving safety and performance, the following systems operate automatically in response to various driving situations. Be aware, however, that these systems are supplementary and should not be relied upon too heavily when operating the vehicle.

■ ABS (Anti-lock Brake System)

Helps to prevent wheel lock when the brakes are applied suddenly, or if the brakes are applied while driving on a slippery road surface.

■ Brake assist

Generates an increased level of braking force after the brake pedal is depressed, when the system detects a panic stop situation.

■ Enhanced VSC (Enhanced Vehicle Stability Control)

Helps the driver to control skidding when swerving suddenly or turning on slippery road surfaces.

■ TRAC (Traction Control)

Helps to maintain drive power and prevent the rear wheels from spinning when starting the vehicle or accelerating on slippery roads.

■ Hill-start assist control

Helps prevent the vehicle from rolling backwards when starting on an incline or slippery slope. It operates for approximately 5 seconds at maximum.

■ EPS (Electric Power Steering)

Employs an electric motor to reduce the amount of effort needed to turn the steering wheel.

■ Active stabilizer suspension system (if equipped)

Reduces sway when cornering according to steering wheel movement and the selected suspension damping mode, in order to maintain a stable vehicle posture.

■ PCS (Pre-Collision System) (if equipped)

→P. 206

VGRS (Variable Gear Ratio Steering) (GS460)

Adjusts the wheel turning angle in accordance with the vehicle speed and steering wheel movement.

VDIM (Vehicle Dynamics Integrated Management)

Provides integrated control of the ABS, Enhanced VSC, TRAC, hill-start assist control, VGRS (GS460) and EPS systems.
Helps to maintain vehicle stability when swerving on slippery road surfaces by controlling the brakes, engine output, and the movement of the front wheels.

When the Enhanced VSC/TRAC/hill-start assist control systems are operating



If the vehicle is in danger of slipping, rolling backwards when starting on an incline, or if the rear wheels (2WD models) or all wheels (4WD models) spin, the slip indicator light flashes to indicate that the Enhanced VSC/ TRAC/hill-start assist control systems have been engaged.

A buzzer (intermittent) sounds to indicate that Enhanced VSC is operating.

The stop lights and high mounted stoplight turn on when the hill-start assist control system is operating.

GS460: The slip indicator light flashes as well when ABS is operating.

To disable TRAC and/or Enhanced VSC

If the vehicle gets stuck in fresh snow or mud, TRAC and Enhanced VSC may reduce power from the engine to the wheels. You may need to turn the system off to enable you to rock the vehicle in order to free it.

■ Turning off TRAC only



Quickly push and release the button to turn off TRAC.

The message "TRAC OFF" appears on the multi-information display.

Push the button again to turn the system back on.

■ Turning off both TRAC and Enhanced VSC



Push and hold the button for more than 3 seconds while the vehicle is stopped to turn off TRAC and Enhanced VSC.

The slip off indicator light should come on and the message "TRAC OFF" appears on the multi-information display.

Push the button again to turn the system back on.

■ **Automatic reactivation of TRAC and Enhanced VSC**

Turning the "ENGINE START STOP" switch OFF after turning off the TRAC and Enhanced VSC systems will automatically re-enable them.

■ **Automatic TRAC reactivation**

If only the TRAC system is turned off, the TRAC system will turn on when the vehicle speed increases.

■ **Automatic TRAC and Enhanced VSC reactivation**

If the TRAC and Enhanced VSC systems are turned off, the systems will not turn on even when the vehicle speed increases.

■ **Sounds and vibrations caused by the ABS, brake assist, Enhanced VSC, TRAC, hill-start assist control and VGRS (GS460) systems**

● A sound may be heard from the engine compartment when the engine is started or just after the vehicle begins to move. This sound does not indicate that a malfunction has occurred in any of these systems.

● Any of the following conditions may occur when the above systems are operating. None of these indicates that a malfunction has occurred.

- Vibrations may be felt through the vehicle body and steering.
- A motor sound may be heard after the vehicle comes to a stop.
- The brake pedal may pulsate slightly after the ABS is activated.
- The brake pedal may move down slightly after the ABS is activated.

■ **Hill-start assist control operating conditions**

This system comes into operation under the following conditions after the brake pedal has been depressed and the vehicle has come to a stop:

● The shift lever is in the "D" or "S".

● The system has detected that the vehicle is moving backwards.

● GS350: The brake pedal is not depressed.

■ **EPS operation sound**

When the steering wheel operates, a motor sound (whirring sound) may be heard. This does not indicate a malfunction.

Reduced effectiveness of EPS

The effectiveness of EPS is reduced to prevent the system from overheating when there is frequent steering input over an extended period of time. The steering wheel may feel heavy as a result. Should this occur, refrain from excessive steering input or stop the vehicle and turn the engine off. The system should return to normal about 10 minutes.

GS460: VGRS is disabled in the following situations

- During stopping or the steering wheel has been moved for a long time while driving at lower speeds.
- After the engine is restarted at less than -22°F (-30°C).

CAUTION

Any of the following conditions may result in an accident which could cause death or serious injury:

The ABS does not operate effectively when

- The limits of tire gripping performance have been exceeded.
- The vehicle hydroplanes while driving at high speed on a wet or slick road.

Stopping distance when the ABS is operating will exceed that of normal conditions

The ABS is not designed to shorten the vehicle's stopping distance. Always maintain a safe distance from the vehicle in front of you in the following situations.

- When driving on dirt, gravel or snow-covered roads
- When driving with tire chains
- When driving over bumps in the road
- When driving over roads with potholes or uneven roads

TRAC may not operate effectively when

Directional control and power may not be achievable while driving on slippery road surfaces, even if the TRAC is operating.
Do not drive the vehicle in conditions where stability and power may be lost.

CAUTION

■ **If the hill-start assist control does not operate effectively**

Do not overly rely on the hill-start assist control. The hill-start assist control may not operate effectively on steep inclines and roads covered in ice.

■ **When the Enhanced VSC is activated**

The slip indicator light flashes and a warning buzzer sounds. Always drive carefully. Reckless driving may cause an accident. Exercise particular care when the indicator light flashes and a buzzer sounds.

■ **When TRAC and Enhanced VSC are off**

Be especially careful and drive at a speed appropriate to the road conditions. As these are systems to ensure vehicle stability and driving force, do not turn off TRAC and Enhanced VSC unless necessary.

■ **Replacing tires**

Make sure that all tires are of the same size, brand, tread pattern and total load capacity. In addition, make sure that the tires are inflated to the specified tire pressure level.

The ABS and Enhanced VSC will not function correctly if different tires are fitted on the vehicle.
Contact your Lexus dealer for further information when replacing tires or wheels.

■ **Handling of tires and suspension**

Using tires with any kind of problem or modifying the suspension will affect the driving assist systems, and may cause the system to malfunction.

PCS (Pre-Collision System)*

When the radar sensor detects possibility of a frontal collision. Pre-collision systems such as the brakes and seat belts are automatically engaged to lessen impact and injuries to occupants as well as vehicle damage.

Pre-collision seat belts (front seats only)

If the pre-collision sensor detects that a collision is unavoidable, the pre-collision system will retract the seat belt before the collision occurs.
The same will happen if the driver makes an emergency braking or loses control of the vehicle. (→P. 65)

However, the system will not operate in the event of skidding when the TRAC/VSC systems are disabled.

Pre-collision brake assist

When there is a high possibility of a frontal collision, the system applies greater braking force in relation to how strongly the brake pedal is depressed.

Pre-collision braking

When there is a possibility of a frontal collision, the system warns the driver using a warning light, warning display and buzzer. If the system determines that a collision is unavoidable, the brakes are automatically applied to reduce the collision speed. Pre-collision braking can be disabled using the pre-collision braking off switch.

AVS (if equipped)

If the system determines that the collision is unavoidable, the operation of AVS (→P. 198) helps prevent the vehicle front from going down when hard brakes are applied.

*: If equipped

Disabling pre-collision braking

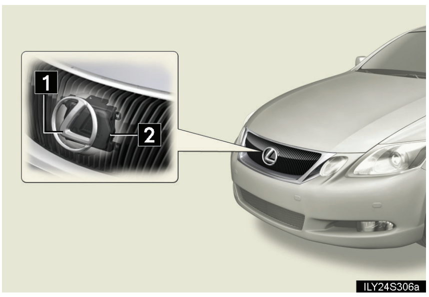


1 Pre-collision braking enabled

2 Pre-collision braking disabled

The "PCS" warning light flashes when pre-collision braking is disabled.

Radar sensor



Detects vehicles or other obstacles on or near the road ahead and determines whether a collision is imminent based on the position, speed, and heading of the obstacles.

1 Grille cover

2 Radar sensor

■ Obstacles not detected

The sensor cannot detect plastic obstacles such as pylons. There may also be occasions when the radar sensor cannot detect pedestrians, animals, bicycles, motorcycles, trees, or snowdrifts.

■ The pre-collision system is operational when

● Pre-collision seat belts (linked to the radar sensor)

- Vehicle speed is above 3 mph (5 km/h).
- The speed at which your vehicle is approaching the obstacle or oncoming vehicle exceeds 18 mph (30 km/h).
- The front occupants are wearing a seat belt.

● Pre-collision seat belts (linked to brake operation)

- Vehicle speed exceeds 18 mph (30 km/h).
- The system detects sudden braking or skidding.
- The front occupants are wearing a seat belt.

● Pre-collision brake assist

- Vehicle speed is above 18 mph (30 km/h).
- The speed at which your vehicle is approaching the obstacle or oncoming vehicle exceeds 18 mph (30 km/h).
- The brake pedal is depressed.

● Pre-collision braking

- The pre-collision braking off button is not pressed.
- Vehicle speed is greater than about 9 mph (15 km/h).
- The speed at which your vehicle is approaching the obstacle or the vehicle running ahead of you is greater than about 9 mph (15 km/h).

● AVS (if equipped)

- Vehicle speed is above 3 mph (5 km/h).
- The speed at which your vehicle is approaching the obstacle or oncoming vehicle exceeds 18 mph (30 km/h).

■ **Conditions that may trigger the system even if there is no possibility of collision**

- When there is an object by the roadside at the entrance to a curve
- When passing an oncoming vehicle on a curve
- When driving over a narrow iron bridge
- When there is a metal object on the road surface
- When driving on an uneven road surface
- When passing an oncoming vehicle on a left-turn
- When your vehicle rapidly closes on the vehicle in front
- When a grade separation/interchange, sign, billboard, or other structure appears to be directly in the vehicle's line of travel
- When an extreme change in vehicle height occurs
- When there is an abnormality in the radar sensor
- When climbing a steep hill causes an overhead billboard or other metallic structure to appear directly in the vehicle's line of travel
- When passing through certain ETC (Electronic Toll Collection system) gates

When the system is activated in the situations described above there is also a possibility that the seat belts will retract quickly and the brakes will be applied with a force greater than normal. When the seat belt is locked in the retracted position, stop the vehicle in a safe place, release the seat belt and refasten.

■ **When there is a malfunction in the system**

Warning lights and/or warning messages will turn on or flash. (→P. 535, 546)

■ Certification

▶ For vehicles sold in the U.S.A.

FCC ID: HYQDNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

▶ For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes: (1) il ne doit pas produire de brouillage, et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

CAUTION

■ Handling the radar sensor

Observe the following to ensure the pre-collision system can function effectively.

- Keep the sensor and front grille clean at all times.
  Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
- Do not subject the sensor or surrounding area to a strong impact.
  If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area are subject to a strong impact, always have the area inspected and adjusted by a Lexus dealer.
- Do not disassemble the sensor.
- Do not attach accessories or stickers to the sensor, grille cover or surrounding area.
- Do not modify or paint the sensor and grille.

■ Limitations of the pre-collision system

Do not rely on the pre-collision system. Always drive safely, taking care to observe your surroundings and checking for any obstacles or other road hazards.

CAUTION

Cautions regarding the assist contents of the system

By means of alarms and brake control, the pre-collision system is intended to assist the driver in avoiding collisions through the process of “LOOK-JUDGE-ACT”. There are limits to the degree of assistance the system can provide, so please keep in mind the following important points.

- Assisting the driver in watching the road
  The pre-collision system is only able to detect obstacles directly in front of the vehicle, and only within a limited range. It is not a mechanism that allows careless or inattentive driving, and it is not a system that can assist the driver in low-visibility conditions. It is still necessary for the driver to pay close attention to the vehicle’s surroundings.
- Assisting the driver in making correct judgment
  When attempting to estimate the likelihood of a collision, the only data available to the pre-collision system is that from obstacles it has detected directly in front of the vehicle. Therefore, it is absolutely necessary for the driver to remain vigilant and to determine whether or not there is a possibility of collision in any given situation.
- Assisting the driver in taking action
  The pre-collision system’s braking assist feature is designed to help reduce the severity of a collision, and so only acts when the system has judged that a collision is unavoidable. This system by itself is not capable of automatically avoiding a collision or bringing the vehicle to a stop safely. For this reason, when encountering a dangerous situation the driver must take direct and immediate action in order to ensure the safety of all involved.